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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1 53(b))

Attorney Docket No.	042390.P8797
First Inventor or Application Identifier	Rezaur Rahman
Title	APPARATUS AND METHOD FOR DELIVERY OF METADATA ON
Express Mail Label No.	EL466331485US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents

ADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. ☒ Fee Transmittal Form
(Submit an original, and a duplicate for fee processing)

2. ☒ Specification [Total Pages 16]
(preferred arrangement set forth below)
- Descriptive title of the Invention
- Cross References to Related Applications
- Statement Regarding Fed sponsored R & D
- Reference to Microfiche Appendix
- Background of the Invention
- Brief Summary of the Invention
- Brief Description of the Drawings (*if filed*)
- Detailed Description
- Claim(s)
- Abstract of the Disclosure

3. ☒ Drawing(s) *(35 U.S.C. 113)* [Total Sheets 2]

4. Oath or Declaration [Total Pages 5]
   a. ☐ Newly executed (original copy)
   b. ☐ Copy from a prior application (37 C.F.R. § 1.63(d)) *(for continuation/divisional with Box 16 completed)*
      i. ☐ DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR §§ 1.63(d)(2) and 1.33(b).

NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

5. ☐ Microfiche Computer Program *(Appendix)*

6. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
   a. ☐ Computer Readable Copy
   b. ☐ Paper Copy (identical to computer copy)
   c. ☐ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

7. ☐ Assignment Papers (cover sheet & document(s))
8. ☐ 37 C.F.R. § 3.73(b) Statement *(when there is an assignee)* ☐ Power of Attorney
9. ☐ English Translation Document *(if applicable)*
10. ☐ Information Disclosure Statement (IDS)/PTO - 1449 ☐ Copies of IDS Citations
11. ☐ Preliminary Amendment
12. ☒ Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
13. ☐ *Small Entity Statement(s) ☐ Statement filed in prior application, Status still proper and desired
14. ☐ Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
15. ☐ Other: .....

16. **If a CONTINUING APPLICATION**, *check appropriate box, and supply the requisite information below and in a preliminary amendment:*
☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No:

Prior application Information: Examiner _____ *Group/Art Unit:* _____

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

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Address	12400 Wilshire Boulevard, Seventh Floor				
City	Los Angeles	State	California	Zip Code	90025
Country	U.S.A.	Telephone	(714) 557-3800	Fax	(714) 557-3347

Name (Print/Type)	George L. Fountain, Reg. No. 36,374		
Signature	George L. Fountain	Date	09/29/00

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Patent fees are subject to annual revision.
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TOTAL AMOUNT OF PAYMENT	($)	948.00

Complete if Known	
Application Number	
Filing Date	September 29, 2000
First Named Inventor	Rezaur Rahman
Examiner Name	
Group/Art Unit	
Attorney Docket No.	042390.P8797

METHOD OF PAYMENT (check one)

1. ☒ The Commissioner is hereby authorized to charge indicated fees to
☒ The Commissioner is hereby authorized to credit any over payments to

Deposit Account Number: 02-2666

Deposit Account Name: Blakely, Sokoloff, Taylor & Zafman LLP

☒ Charge Any Additional Fees Required Under 37 CFR §§ 1 16,1 17, 1 18 and 1 20

2. ☒ Payment Enclosed:
☒ Check ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
101	690	201	345	Utility filing fee	$690.00
106	310	206	155	Design filing fee	
107	480	207	240	Plant filing fee	
108	690	208	345	Reissue filing fee	
114	150	214	75	Provisional filing fee	

SUBTOTAL (1) ($) 690.00

2. EXTRA CLAIM FEES

			Extra Claims		Fee from below		Fee Paid
Total Claims	30	- 20 =	10	X	18.00	=	$180.00
Independent Claims	4	- 3 =	1	X	78.00	=	$78.00
Multiple Dependent						=	

**or number previously paid, if greater, For Reissues, see below

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
103	18	203	9	Claims in excess of 20
102	78	202	39	Independent claims in excess of 3
104	260	204	130	Multiple Dependent claim, if not paid
109	78	209	39	**Reissue independent claims over original patent
110	18	210	9	**Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 258.00

FEE CALCULATION (continued)

3. ADDITIONAL FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet.	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for reexamination	
112	920*	112	920*	*Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	*Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for response within first month	
116	380	216	190	Extension for response within second month	
117	870	217	435	Extension for response within third month	
118	1,210	218	680	Extension for response within fourth month	
128	1,850	228	925	Extension for response within fifth month	
119	300	219	150	Notice of Appeal	
120	300	220	150	Filing a brief in support of an appeal	
121	260	221	130	Request for oral hearing	
138	1,510	138	1510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,210	241	605	Petition to revive - unintentional	
142	1,210	242	605	Utility issue fee (or reissue)	
143	430	243	215	Design issue fee	
144	580	244	290	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	240	126	240	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	790	246	395	Filing a submission after final rejection (37 CFR 1.129(a))	
149	790	249	395	For each additional invention to be examined (37 CFR 1.129(b))	

Other fee (specify) _____
Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($)

SUBMITTED BY

Typed or Printed Name	George L. Fountain			Complete (if applicable) Reg. Number	36,374
Signature	George L. Fountain	Date	09/29/00	Deposit Account User ID	02-2666

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BSTZ No. 042390.P8797
Express Mail No. EL466331485US

UNITED STATES PATENT APPLICATION

FOR

APPARATUS AND METHOD FOR DELIVERY OF METADATA ON ATVEF TRANSPORT B ENABLED PLATFORM

Inventor(s):

Rezaur Rahman

Prepared by:

Blakely, Sokoloff, Taylor & Zafman LLP
12400 Wilshire Blvd., Suite 700
Los Angeles, California 90025
(714) 557-3800

APPARATUS AND METHOD FOR DELIVERY OF METADATA ON ATVEF TRANSPORT B ENABLED PLATFORM

FIELD OF THE INVENTION

The invention relates generally to enhanced television transmissions that includes a television video signal and one or more television enhancements simultaneously transmitted to client receivers. In particular, the invention relates to an apparatus and method of delivering metadata concerning available videos programs and/or enhancements to clients in a manner compliant with the Enhanced Content Specification specified by the Advanced Television Enhancement Forum (ATVEF) published in 1999.

BACKGROUND OF THE INVENTION

Many broadcasters are delivering television signals to clients containing not only the television program that is viewed by the client in essentially real time, but additional digital information embedded in the television signal. The additional digital information has been termed in the art as "television enhancements." Television enhancements can be of many forms, including news, web-site links, interactive games, and others. A client's receiver, which could be a television set, a set-top box, and a computer-based system, can simultaneously display the television program as an object window and the television enhancement as another object window.

Typically, the television enhancement transmitted is associated with the television program being simultaneously transmitted. For instance, if the television program is a commercial for a particular product, the enhancement may include one or more web-site links providing information about the product and its manufacturer. If interested, a client can activate the web-site link shown as an object window on the client's display to open a web-site providing further information about the product. Alternatively, for example, the enhancement may

include an interactive game which allows a client to receive discounts on the product or actually win the product as a prize. The above are merely examples.

Recently, a cross-industry group named Advanced Television Enhancement Forum (ATVEF) was formed to specify a standard for delivering television enhancements to client receivers. Because the Internet is now widely accepted for the transmission of digital data, the ATVEF specification uses existing Internet standards for the transmissions. For instance, information conforming to the Hypertext Markup Language (HTML) can be transmitted as an enhancement along with the television program signal, and processed by the client receiver to simultaneous display of the television program and the website as separate object windows. The transmission of television enhanced signals can be through a terrestrial wireless medium, cable, satellite system, fiber optics, to name a few.

According to the ATVEF standard, there are three (3) basic data structures for transmission of enhanced television signals: announcements, content, and triggers. Announcements are used to announce currently available programming to client receivers. Typically, announcements are broadcast on a single multicast address that inform client receivers of the multicast address and port number of a particular content for access purposes. The content can be television programs, television enhancements, and triggers. They are typically broadcast from a multicast address and port, and can be "tuned" to by a client receiver for reception and real-time display. Triggers identify a Uniform Resource Locator (URL) and a limited human readable string to use in an announcement. When a client receiver receives a trigger, it displays the corresponding URL in the form of a link on the client display to allow the user the opportunity to access the corresponding website if so desired.

Also according to the ATVEF standard, there are two types of transport platforms for transmission of television enhancements: transport "A" and transport "B." Transport A is for the delivery of triggers only by a forward path and the pulling of data by a required return path. Accordingly, transport "A" is particularly suited for enhanced television that runs on relatively low bandwidth

communications medium. Transport B is for delivery of triggers and data by a forward path where the return path is optional. Transport B is typically for true broadcast of both resource data and triggers. The return path can be optionally provided to provide users at their respective client receivers the capability of e-commerce and general web browsing. The invention herein concerns a transport B platform.

The existing announcement provided by the ATVEF has several limitations. First, an announcement for a particular video program is transmitted to clients immediately before the video program is transmitted. There is no provision for announcing available future programs and/or enhancements so that a client receiver can set itself out to receive it at the appropriate time. Second, because of the limited size of the announcement (i.e. 1 Kbyte) and other information which the announcement is required to include, a limited amount of information about the television program can be provided. Typically, just the title of the program is provided. Third, the announcement identifies one (1) program and includes a Universally Unique Identifier (UUID) to identify the corresponding television program.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1A illustrates a block diagram of an exemplary advanced television communications system in accordance with the invention;

Figure 1B illustrates a flow diagram of an exemplary method of sending metadata to a client receiver in accordance with the invention;

Figure 2A illustrates a block diagram of another exemplary advanced television communications system in accordance with the invention; and

Figure 2B illustrates a flow diagram of another exemplary method of sending metadata to a client receiver in accordance with the invention.

DETAILED DESCRIPTION OF THE INVENTION

A method and associated apparatus are described herein for announcing and identifying metadata relating to available video programs and/or enhancement in an enhanced television communications system compliant with the standard set forth by the Advanced Television Enhancement Forum (ATVEF). In particular, the method provides for a new attribute to the existing Session Description Protocol (SDP) announcement specified by the ATVEF standard which is used by client receivers to access metadata. Metadata is data that describes other data, in particular, that describes available video programs and/or enhancement transmitted by a content creator and/or transport operator. The new SDP announcement provides a Universally Unique Identifier (UUID) to allow client receivers to identify the incoming metadata. Additionally, the new SDP announcement further can provide the address and/or port if the metadata is located on a network database. After receiving this new SDP announcement, a client receiver can retrieve the metadata and store it in its local memory. The client receiver may present the metadata to the user to allow the user to select which one or more television programs and/or enhancements to download and view or merely to store for later use. Or, the client receiver may be automatically programmed to receive the television program and/or enhancement based on a specified criteria and information provided in the metadata.

More specifically, the ATVEF standard provides for announcements to conform to the Session Description Protocol (SDP) specified in Request for Comments (RFC) 2327. An SDP announcement includes various parameters. For instance, parameter "o" identifies the owner/creator and session information, parameter "s" identifies the session name, parameter "b" for bandwidth information, parameter "t" specifies the time the session is active, parameter "m" for media name and transport address, and parameter "a" identifies zero or more attributes, to name a few. Of particular interest to the invention is the attribute parameter "a" and optionally parameter "m".

In accordance with the invention, a new attribute entitled "a=type:metadata" is provided for an SDP announcement. When a client receiver receives an SDP announcement with the "metadata" attribute, the client receiver

activates a sub-routine for receiving metadata concerning current future television programs and/or enhancements. The SDP announcement also includes a Universally Unique Identifier (UUID) as another attribute which uniquely identifies the metadata about to be transmitted to it. The client receiver then identifies the received enhancement as metadata by the UUID associated with it. Again, the metadata enhancement is stored in the local memory of the client receiver for purpose of receiving the one or more desired current or future television program and/or enhancement specified in the metadata.

Alternatively, the transmission of the metadata enhancement need not necessarily follow the transmission of the metadata SDP announcement. In such a case, the metadata SDP announcement includes the parameter "m" which identifies the IP address and port of the location containing the metadata. When the client receiver receives the metadata SDP announcement, it activates a sub-routine to retrieve the metadata from the specified address and port using the UUID number associated with the metadata. As the previous case, once the client receiver retrieves the metadata enhancement, it is stored in the local memory of the client receiver for purpose of receiving the one or more desired current or future television program and/or enhancement specified in the metadata.

Figure 1A illustrates a block diagram of an exemplary advanced television communications system 100 in accordance with the invention. The exemplary advanced television communications system 100 comprises at least one source transmitter 102 which transmits at least an announcement and metadata as an enhancement file, and possibly television programs, other enhancements, and triggers in accordance with the ATVEF standard. For example, the source transmitter 102 can be a content creator, a transport operator, or both. A content creator originates the content components of the enhancement including graphics, layout, interaction, triggers, and/or metadata files. A transport operator runs a video delivery infrastructure that includes a transport for ATVEF data.

The communications system 100 also includes at least one client receiver 112 which can receive at least the transmitted announcement and metadata enhancement file, and possibly television programs, other enhancements, and

triggers in accordance with the ATVEF standard. For example, the client receiver 112 can be a television set, a set-top box, and/or a computer-based receiver. The communications system 100 further comprises a communications link 110 which data couples the source transmitter 102 to the client receiver 112. The communications link 110 is capable of communicating ATVEF enhancement data. The communications link 110 can be a terrestrial, cable, satellite, fiber optics, network, wireless network, and others types of communications link that can transmit ATVEF enhancement data.

The source transmitter 102 comprises a logic circuit 104 to perform its various functions, a memory 106 for storing data, and an interface 108 for appropriately communicating ATVEF data through the communications link 110. The logic circuit 104 can be software-based hardware or dedicated hardware for performing the various functions of the source transmitter 102 as discussed in more detail below. The memory 106 can be any type of memory for storing SDP announcements and metadata, and possibly television programs, enhancements, and triggers. The memory 106 could be non-volatile memory including magnetic hard disks, optical discs, electrical erasable read only memory (EEPROM), magnetic tape, and others. The memory 106 can also be volatile memory such as random access memory (RAM) including static and/or dynamic RAM and cache memory. The interface 108 data couples the logic circuit 104 to the particular communications link 110 being used.

The client receiver 102 comprises a logic circuit 118 to perform its various functions, a memory 120 for storing data, a display 116 for displaying television programs, enhancements, and/or triggers, and an interface 114 for appropriately communicating ATVEF data through the communications link 110. The logic circuit 118 can be software-based hardware or dedicated hardware for performing the various functions of the client receiver 112 as discussed in more detail below. The memory 120 can be any type of memory for storing a UUID and a corresponding metadata enhancement, and routines for receiving SDP announcements, metadata, and possibly television programs, enhancements, triggers. The memory 120 could be non-volatile memory including magnetic hard

disks, optical discs, electrical erasable read only memory (EEPROM), magnetic tape, and others. The memory 120 can also be volatile memory such as random access memory (RAM) including static and/or dynamic RAM and cache memory. The interface 114 data couples the logic circuit 118 to the particular communications link 110 being used.

Figure 1B illustrates a flow diagram of an exemplary method 150 of sending metadata to a client receiver in accordance with the invention. The method 150 begins with by the source transmitter 102 generating an SDP announcement having an attribute that signifies that the announcement pertains to metadata (step 152). In the exemplary implementation of the method 150, the SDP announcement includes attribute signifier "a=type:metadata". Also sent with the announcement is another attribute which identifies the metadata enhancement file. In the exemplary implementation of the method 150, the SDP announcement includes attribute signifier "a=UUID", where UUID is a unique identifier for the metadata.

In performing step 152, the logic circuit 104 of the source transmitter generates the SDP announcement including the metadata attribute and the corresponding UUID number stored in the memory 106. The SDP announcement is sent to the interface 108 for transmission to the client receiver 112 by way of communications link 110. If the source transmitter 102 is a content creator only, it sends the SDP announcement to a transport operator for binding with a video signal. Once the transport operator binds the SDP announcement to the video signal, it then transmits the video signal to the client receiver 112. If the source transmitter 102 is a combination content creator/transport operator, it binds the SDP announcement to the video signal and then transmits it to the client receiver 112.

A subsequent step 154 in the method 150 is for the client receiver 112 to receive the SDP announcement and store the UUID for later identifying the metadata enhancement when it is received. In performing step 154, the interface 114 of the client receiver 112 receives the video signal including the SDP

announcement. The logic circuit 118 strips off the SDP announcement from the video signal, and stores the UUID in a memory 120.

A subsequent step 156 in the method 150 is for the source transmitter 102 to transmit the metadata to the client receiver 112 as an enhancement file in accordance with the ATVEF standard. In performing step 156, the logic circuit 104 access the metadata which is stored in memory 106 and then causes it to be transmitted to the client receiver 112 with the use of the interface 108 and by way of the communications link 110. Again, if the source transmitter 102 is a content creator only, it sends the metadata enhancement file to a transport operator for binding with a video signal. Once the transport operator binds the metadata enhancement to the video signal, it then transmits the video signal to the client receiver 112. If the source transmitter 102 is a combination content creator/transport operator, it binds the metadata enhancement to the video signal and then transmits it to the client receiver 112.

A subsequent step 158 in the method 150 is for the client receiver to receive and store the metadata in memory 120. In performing step 158, the interface 114 of the client receiver 112 receives the video signal including the metadata enhancement. The logic circuit 118 strips off the metadata the video signal, and stores the metadata and corresponding UUID in a memory 120. The logic circuit 118 knows that it is metadata since it matches the UUID previously stored with the UUID sent with the metadata enhancement. As previously discussed, the metadata can include information of current and/or future television programs and/or enhancement. The information need not be limited, and can include for example, the type of television program (e.g. comedy, drama, thriller, a sit-com, news, game show, soap opera, talk show, etc.), the time the television program is broadcasted to clients, description of the plot or episode, corresponding actors name, parental guidance, etc.

A subsequent step 160 in the method 150 is for the client receiver 102 to be manually or automatically set-up to received the desired one or more television programs and/or enhancements using the metadata stored in memory 120. For example, the metadata may be presented to the user at the client receiver 102

through the use of the display 116. With the use of an input device (keyboard, remote control, pointing device, microphone, etc.), the user can select which television programs and/or enhancements to view. If the selected television program and/or enhancement is currently being transmitted on a particular channel, the logic circuit 118 sets up the receiver for receiving and displaying the selected television program and/or enhancement. If the selected television program and/or enhancement is to being transmitted in the future at a time specified by the metadata, the logic circuit 118 sets up the receiver for receiving and displaying the selected television program and/or enhancement at the appropriate time.

Figure 2A illustrates a block diagram of another exemplary advanced television communications system 200 in accordance with the invention. The communications system 200 is essentially the same as communications system 100, except that the metadata enhancement file is not located in the local memory of the source transmitter 202, but resides in a database 222 somewhere else in the network identified by an IP address and port. Accordingly, the method 250 of sending metadata to the client receiver 200 operates differently than method 150.

Figure 2B illustrates a flow diagram of another exemplary method 250 of sending metadata to a client receiver in accordance with the invention. In an initial step 252 of the method 250, the source transmitter 202 transmits an SDP announcement with the metadata attribute, a UUID that identifies the metadata, and additionally, the IP address and port of database 222 where the metadata is stored. The source transmitter 202 generates the SDP announcement as previously discussed with reference to source transmitter 102. In a subsequent step 252, the client receiver 212 receives the SDP announcement and stores the UUID identifying the metadata and the IP address and port of the database 222. The client receiver 212 receives the SDP announcement as previously discussed with reference to client receiver 112.

In step 256 of the method 250, the client receiver 214 sends a request for the metadata to the database 222 using the IP address, port and UUID stored in the memory 220. More specifically, the logic circuit 218 prepares a request using the

IP address, port and UUID stored in memory 220, and transmits it to the database 222 via an optional IP data link specified by transport B of the ATVEF standard. Responding to the request, the database 222 transmits the metadata to the client receiver by way of the optional IP data link. In step 258, the client receiver stores the metadata in memory 220, and in step 260 is manually or automatically set-up to receive current and/or future television programs and/or enhancements using the metadata as previously discussed with reference to method 150.

There are several advantages with the methods 150 and 250 of sending metadata to client receivers in accordance with the invention. First, the methods are compliant with the ATVEF standard since the ATVEF-compliant announcement is used to send the metadata announcement, and the metadata is sent as a standard television enhancement. Second, the metadata can concern television programs or enhancements that are broadcasted at a specified future time so that the client receiver can be programmed at such time to receive it. Third, the metadata can contain lots of information including detail information about one or more available video programs and/or enhancements. The metadata can be sent in Document Type Definition (DTD) format so that it is capable of being communicated on different types of enhanced television communication systems.

In the foregoing specification, the invention has been described with reference to specific embodiments thereof. It will, however, be evident that various modifications and changes may be made thereto departing from the broader spirit and scope of the invention. The specification and drawings are, accordingly, to be regarded in an illustrative rather than a restrictive sense.

CLAIMS

What is claimed is:

1. A method comprising:

receiving an announcement for metadata, wherein said announcement includes a metadata attribute and a first identifier for said metadata file;

receiving said metadata including a second identifier; and

if said first and second identifiers match, using said metadata for receiving a video program or enhancement described in said metadata.

2. The method of claim 1, wherein said announcement is compliant with an Advanced Television Enhancement Forum (ATVEF) standard.

3. The method of claim 2, wherein said metadata attribute uses the "a:type" parameter specified in a Session Description Protocol (SDP).

4. The method of claim 1, wherein said metadata is received as an enhancement to a video signal.

5. The method of claim 1, wherein said first and second identifiers are of a Universally Unique Identifier (UUID) format.

6. The method of claim 1, wherein said metadata further specifies a pre-determined future time to which said video program or enhancement will be available for receiving.

7. The method of claim 6, further including receiving said video program or enhancement at said future time.

8. The method of claim 1, wherein said receiving said metadata comprises:

receiving an IP address included in said announcement, wherein said IP address identifies a database in which said metadata is stored;

transmitting a request for said metadata to said database; and

receiving said metadata from said database.

9. A data structure, comprising:

an announcement including an attribute to announce metadata that provides information about at least one available video program or enhancement for receiving at a client receiver.

10. The data structure of claim 9, wherein said announcement is compliant with an Advanced Television Enhancement Forum (ATVEF) standard.

11. The data structure of claim 10, wherein said announcement conforms to a Session Description Protocol (SDP).

12. The data structure of clam 9, comprising an identifier for said metadata.

13. The data structure of claim 12, wherein said identifier comprises a Universally Unique Identifier (UUID).

14. The data structure of claim 9, wherein said session announcement comprises a network address for a database having stored therein said metadata.

15. The data structure of claim 14, wherein said network address comprises an Internet Protocol (IP) address.

16. A source transmitter, comprising:

an interface to a communications link;

a memory; and

a logic circuit to transmit an announcement stored in said memory, wherein said announcement comprises an attribute to announce metadata that provides information about at least one available video program or enhancement to be received at a client receiver.

17. The source transmitter of claim 16, wherein said announcement is compliant with an Advanced Television Enhancement Forum (ATVEF) standard.

18. The source transmitter of claim 17, wherein said announcement conforms to a Session Description Protocol (SDP).

19. The source transmitter of clam 16, wherein said announcement comprises an identifier for said metadata.

20. The source transmitter of claim 19, wherein said identifier comprises a Universally Unique Identifier (UUID).

21. The source transmitter of claim 16, wherein said announcement comprises a network address for a database having stored therein said metadata.

22. The source transmitter of claim 21, wherein said network address comprises an Internet Protocol (IP) address.

23. The source transmitter of claim 16, wherein said logic circuit transmits said metadata after said announcement has been transmitted.

24. A machine readable medium comprising:

a software routine to cause a logic circuit to transmit an announcement including an attribute to announce metadata that provides information about at least one available video program or enhancement for receiving at a client receiver.

25. The machine readable medium of claim 24, wherein said announcement is compliant with an Advanced Television Enhancement Forum (ATVEF) standard.

26. The machine readable medium of claim 25, wherein said announcement conforms to a Session Description Protocol (SDP).

27. The machine readable medium of clam 24, wherein said announcement comprises an identifier for said metadata.

28. The machine readable medium of claim 27, wherein said identifier comprises a Universally Unique Identifier (UUID).

29. The machine readable medium of claim 24, wherein said announcement comprises a network address for a database having stored therein said metadata.

30. The machine readable medium of claim 29, wherein said network address comprises an Internet Protocol (IP) address.

ABSTRACT OF THE INVENTION

A method and associated apparatus for announcing and identifying metadata relating to available video programs and/or enhancements in an enhanced television communications system compliant with the standard set forth by the Advanced Television Enhancement Forum (ATVEF). In particular, the method provides for a new attribute to the existing Session Description Protocol (SDP) announcement specified by the ATVEF standard which is used by client receivers to access metadata. Metadata is data that describes other data, in particular, that describe available video programs and/or enhancements transmitted by a content creator and/or transport operator. The new SDP announcement provides a Universally Unique Identifier (UUID) to allow client receivers to identify the incoming metadata. Additionally, the new SDP announcement further can provides the address and/or port if the metadata is located on a network database. After receiving this new SDP announcement, a client receiver can retrieve the metadata and store it in its local memory. The client receiver may present the metadata to the user to allow the user to select which one or more television programs and/or enhancements to download and view or merely to store for later use. Or, the client receiver may be automatically programmed to receive the television program and/or enhancement based on a specified criteria and information provided in the metadata.

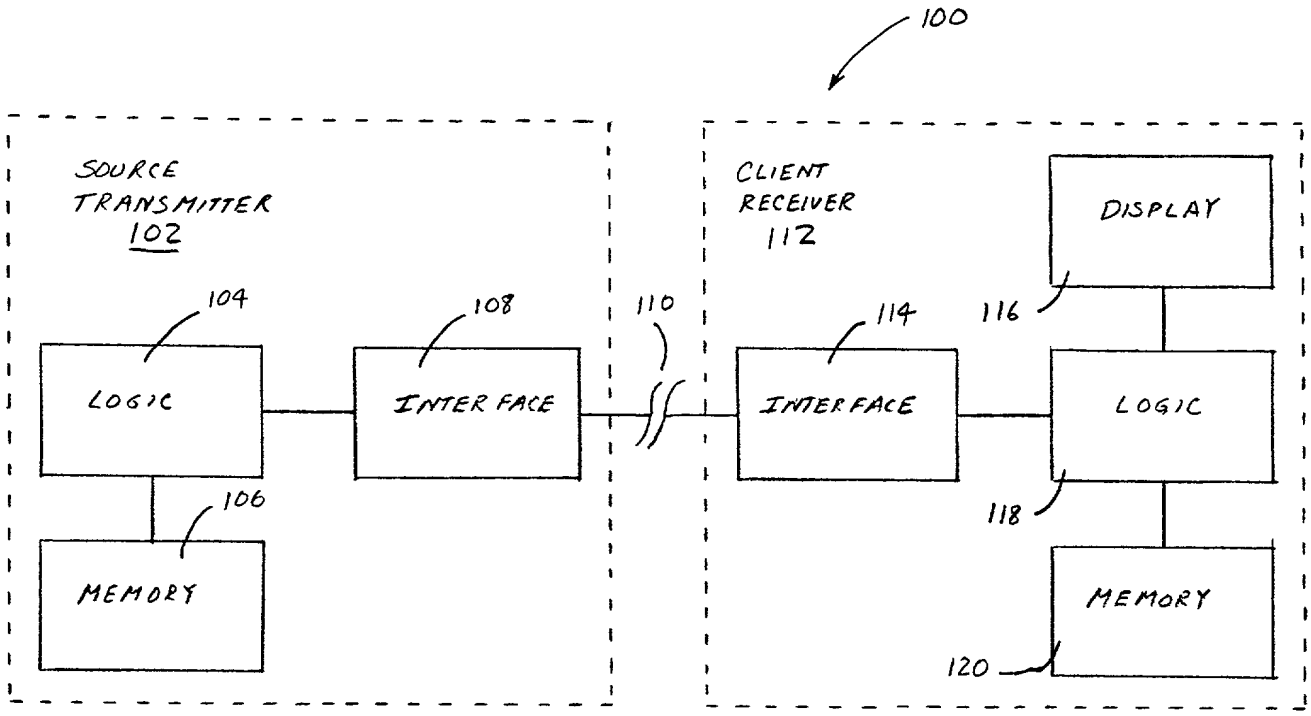

FIGURE 1A

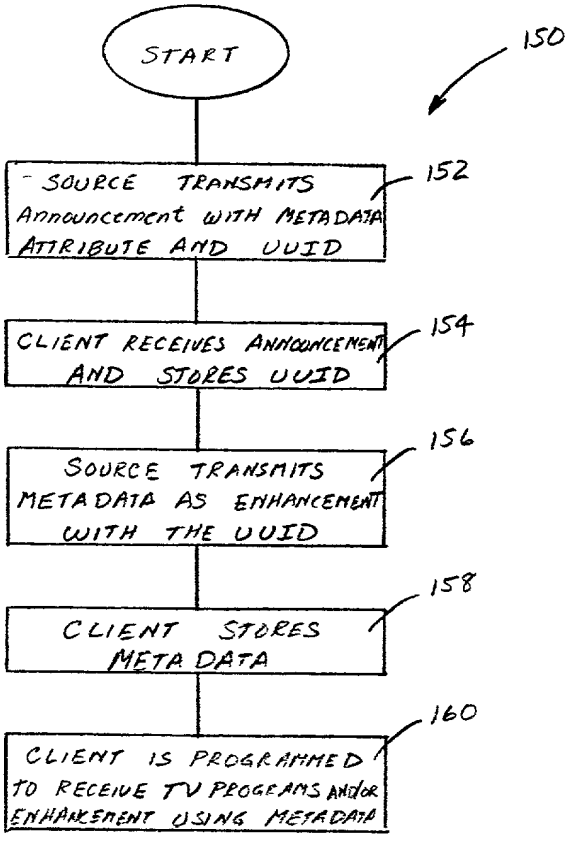

FIGURE 1B

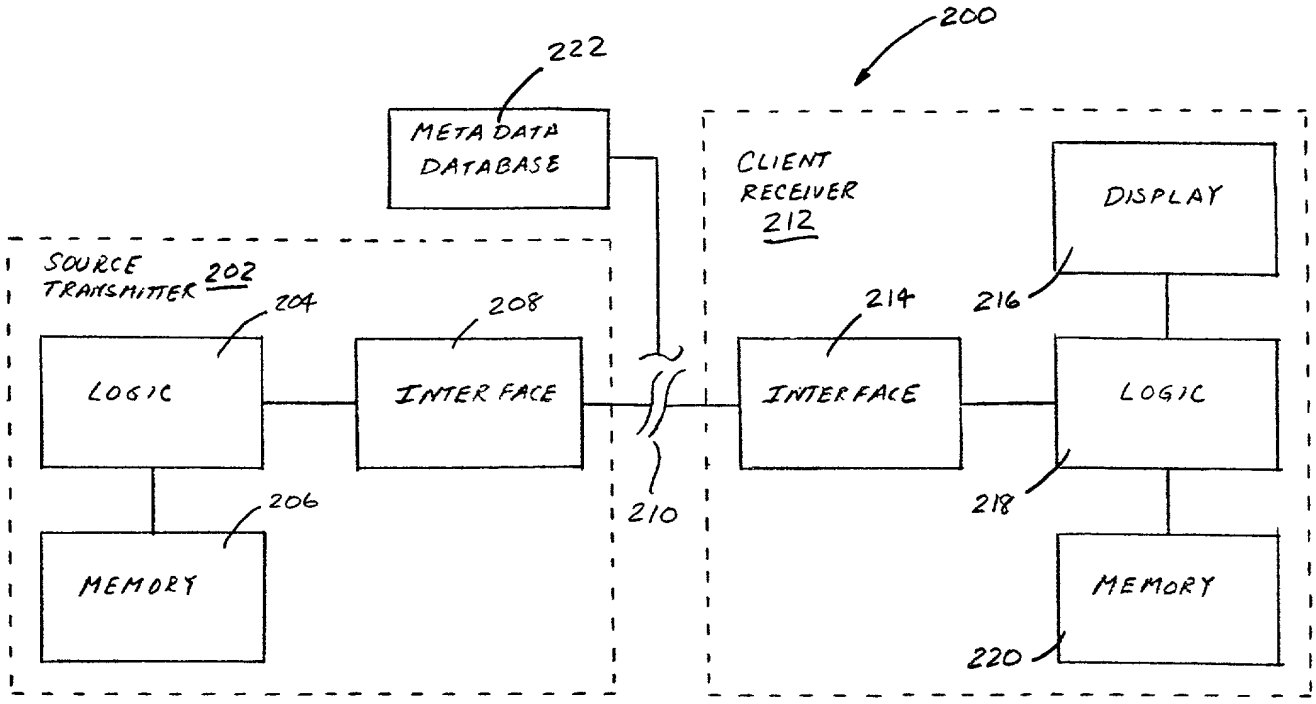

FIGURE 2A

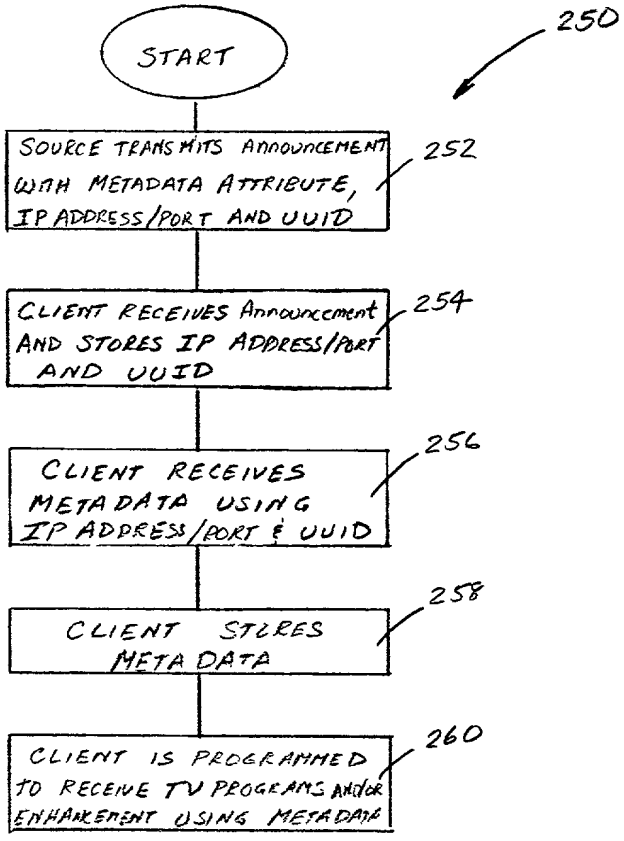

FIGURE 2B

Attorney's Docket No.: 042390.P8797

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below, next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or any original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

APPARATUS AND METHOD FOR DELIVERY OF METADATA ON ATVEF TRANSPORT B ENABLED PLATFORM

the specification of which [X] is attached hereto.
[ ] was filed on _____ as
United States Application Number _____
or PCT International Application Number _____
and was amended on _____
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above. I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, and that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d), of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s):

APPLICATION NUMBER	COUNTRY (OR INDICATE IF PCT)	DATE OF FILING (day, **month**, year)	PRIORITY CLAIMED UNDER 37 USC 119
			☐ No ☐ Yes
			☐ No ☐ Yes
			☐ No ☐ Yes

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below:

APPLICATION NUMBER	FILING DATE

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

APPLICATION NUMBER	FILING DATE	STATUS (ISSUED, PENDING, ABANDONED)

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Send correspondence to:
George L. Fountain, Reg. No. 36,374, BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, LLP
(Name of Attorney or Agent)
12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025 and direct telephone calls to:
George L. Fountain, (714) 557-3800.
(Name of Attorney or Agent)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Sole/First Inventor (given name, family name) **Rezaur Rahman**

Inventor's Signature _____ Date _____

Residence Beaverton, Oregon USA (*City, State*) Citizenship Bangladesh (*Country*)

P. O. Address 2345 NW Lydia Place
Beaverton, Oregon 97006 USA

Full Name of Second/Joint Inventor (given name, family name) _____

Inventor's Signature _____ Date _____

Residence _____ (*City, State*) Citizenship _____ (*Country*)

P. O. Address _____

Full Name of Third/Joint Inventor (given name, family name) _____

Inventor's Signature _____ Date _____

Residence _____ Citizenship _____

(City , State) *(Country)*

P. O. Address _____

_____

Full Name of Fourth/Joint Inventor (given name, family name) _____

Inventor's Signature _____ Date _____

Residence _____ Citizenship _____

(City , State) *(Country)*

P. O. Address _____

_____

Full Name of Fifth/Joint Inventor (given name, family name) _____

Inventor's Signature _____ Date _____

Residence _____ Citizenship _____

(City , State) *(Country)*

P. O. Address _____

_____

Full Name of Sixth/Joint Inventor (given name, family name) _____

Inventor's Signature _____ Date _____

Residence _____ Citizenship _____

(City , State) *(Country)*

P. O. Address _____

_____

Full Name of Seventh/Joint Inventor (given name, family name) _____

Inventor's Signature _____ Date _____

Residence _____ Citizenship _____

(City , State) *(Country)*

P. O. Address _____

_____

Full Name of Eighth/Joint Inventor (given name, family name) _____

Inventor's Signature _____ Date _____

Residence _____ Citizenship _____

(City , State) *(Country)*

P. O. Address _____

_____

Full Name of Ninth/Joint Inventor (given name, family name) _____

Inventor's Signature _____ Date _____

Residence _____ Citizenship _____

(City , State) *(Country)*

P. O. Address _____

_____

Full Name of Tenth/Joint Inventor (given name, family name) _____

Inventor's Signature _____ Date _____

Residence _____ Citizenship _____

(City , State) *(Country)*

P. O. Address _____

_____

Appendix A

I hereby appoint BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP, a firm including: William E. Alford, Reg. No. 37,764; Farzad E. Amini, Reg. No. 42,261; William Thomas Babbitt, Reg. No. 39,591; Carol F. Barry, Reg. No. 41,600; Jordan Michael Becker, Reg. No. 39,602; Lisa N. Benado, Reg. No. 39,995; Bradley J. Bereznak, Reg. No. 33,474; Michael A. Bernadicou, Reg. No. 35,934; Roger W. Blakely, Jr., Reg. No. 25,831; R. Alan Burnett, Reg. No. 46,149; Gregory D. Caldwell, Reg. No. 39,926; Andrew C. Chen, Reg. No. 43,544; Thomas M. Coester, Reg. No. 39,637; Donna Jo Coningsby, Reg. No. 41,684; Dennis M. deGuzman, Reg. No. 41,702; Stephen M. De Klerk, Reg. No. P46,503; Michael Anthony DeSanctis, Reg. No. 39,957; Daniel M. De Vos, Reg. No. 37,813; Sanjeet Dutta, Reg. No. P46,145; Matthew C. Fagan, Reg. No. 37,542; Tarek N. Fahmi, Reg. No. 41,402; George Fountain, Reg. No. 36,374; Paramita Ghosh, Reg. No. 42,806; James Y. Go, Reg. No. 40,621; James A. Henry, Reg. No. 41,064; Willmore F. Holbrow III, Reg. No. P41,845; Sheryl Sue Holloway, Reg. No. 37,850; George W Hoover II, Reg. No. 32,992; Eric S. Hyman, Reg. No. 30,139; William W. Kidd, Reg. No. 31,772; Sang Hui Kim, Reg. No. 40,450; Walter T. Kim, Reg. No. 42,731; Eric T. King, Reg. No. 44,188; Erica W. Kuo, Reg. No. 42,775; George B. Leavell, Reg. No. 45,436; Gordon R. Lindeen III, Reg. No. 33,192; Jan Carol Little, Reg. No. 41,181; Kurt P. Leyendecker, Reg. No. 42,799; Joseph Lutz, Reg. No. 43,765; Michael J. Mallie, Reg. No. 36,591; Andre L. Marais, under 37 C.F.R. § 10.9(b); Paul A. Mendonsa, Reg. No. 42,879; Clive D. Menezes, Reg. No. 45,493; Chun M. Ng, Reg. No. 36,878; Thien T. Nguyen, Reg. No. 43,835; Thinh V. Nguyen, Reg. No. 42,034; Dennis A. Nicholls, Reg. No. 42,036; Daniel E. Ovanezian, Reg. No. 41,236; Kenneth B. Paley, Reg. No. 38,989; Marina Portnova, Reg. No. P45,750; William F. Ryann, Reg. 44,313; James H. Salter, Reg. No. 35,668; William W. Schaal, Reg. No. 39,018; James C. Scheller, Reg. No. 31,195; Jeffrey Sam Smith, Reg. No. 39,377; Maria McCormack Sobrino, Reg. No. 31,639; Stanley W. Sokoloff, Reg. No. 25,128; Judith A. Szepesi, Reg. No. 39,393; Vincent P. Tassinari, Reg. No. 42,179; Edwin H. Taylor, Reg. No. 25,129; John F. Travis, Reg. No. 43,203; Joseph A. Twarowski, Reg. No. 42,191; Thomas A. Van Zandt, Reg. No. 43,219; Lester J. Vincent, Reg. No. 31,460; Glenn E. Von Tersch, Reg. No. 41,364; John Patrick Ward, Reg. No. 40,216; Mark L. Watson, Reg. No. P46,322; Thomas C. Webster, Reg. No. P46,154; and Norman Zafman, Reg. No. 26,250; my patent attorneys, and Firasat Ali, Reg. No. 45,715; and Justin M. Dillon, Reg. No. 42,486; Raul Martinez, Reg. No. 46,904; my patent agents, with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (714) 557-3800, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.